

Amendment
Serial No. 10/770,129
Attorney Docket No. 042078

AMENDMENTS TO THE DRAWINGS

The attached replacement sheet of drawings includes changes to Fig. 16.

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REMARKS

Claims 1-4 are pending in the present application. Claims 1 and 4 are rejected.

Objections to the Drawings

The Office Action objects to Figure 16 because it only illustrates that which is old, and therefore should be labeled as “Prior Art.” The Office Action requires that Figure 16 be corrected to include this label. Applicants have herein amended Figure 16 accordingly.

Applicants’ Response to Claim Rejections under 35 U.S.C. §102

Claim 4 was rejected under 35 U.S.C. §102(b) as being anticipated by Nishikawa et al. (JP 2000-205164) or Fujio et al. (JP 2002-276578).

It is the position of the Office Action that both **Nishikawa** and **Fujio** disclose the invention as claimed. **Nishikawa** discloses a rotary compressor having a rotary shaft (unnumbered), cylinders 23 and 33, and an intermediate partitioner (unnumbered) disposed between the cylinders 23 and 33. It appears that the shaft contains oil grooves (diagonal lines above and below the cylinders) and an oil bore (dotted line within the shaft).

Fujio discloses a rotary system multistage compressor having a driving shaft 7, a high rank side cylinder block 8, a first rank side cylinder block 10, and a medium plate 6. Driving shaft 7 appears to contain an oil groove (diagonal line above the high rank side cylinder block 7), and appears to disclose an oil bore within the driving shaft in Figure 4.

The present invention discloses a compressor having rotary shaft 16 with an oil bore formed within, an upper cylinder 38, a lower cylinder 40 and an intermediate partitioner 36

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positioned between the upper cylinder 38 and the lower cylinder 40. The intermediate partitioner 36 has a lubrication bore 133 which allows communication between the oil bore 80 of the rotary shaft 16 and a low-pressure chamber in the second upper cylinder 38. This communication is clearly illustrated in Figures 6(a) to 6(l).

With regard to **Nishikawa**, it is the position of the Office Action that both the oil bore formed in the rotary shaft and the lubrication bore formed in the intermediate partitioner are “not numbered; however, clearly seen in Fig. 1.” It appears that the Office Action regards as the “oil bore” either the oil grooves (diagonal lines above and below the cylinders) or the bore (dotted line within the shaft), or both. It appears that the Office Action regards the passage from the shaft to the inhalation opening 31 as analogous to the lubrication bore.

In **Nishikawa**, reference numeral 30 is a second compression element. Although the purpose of **Nishikawa** appears similar to that of the present invention, the present invention is structurally distinct from **Nishikawa**. The unnumbered and L-shaped bore permits communication between the oil bore and the suction port 31. However, it is necessary to make a hole or the like in the suction pipe or cylinder 33. Thus, complicated work is required.

On the other hand, claim 4 requires “a lubrication bore for communication between the oil bore and a low pressure chamber in the second cylinder.” This simplifies the invention by requiring only work to the intermediate partitioner. This is because the partitioner closes the lower opening of the second cylinder 38 and the lubrication bore 133 communicates with the oil bore 80 and a lower pressure chamber LR in the second cylinder 38.

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With regard to **Fujio**, it is the position of the Office Action that the oil bore formed in the rotary shaft is “not numbered; however, clearly seen in Fig. 1-2, and 9.” It appears that the Office Action regards the diagonal oil groove as analogous to the oil bore. Furthermore, the Office Action appears to regard the small hole 68 as analogous to the lubrication bore. Please see Figure 2.

The hole 68 is made for returning the oil from the oil separator 99 to the inner side of the rollers 65 and 70. The high pressure in the oil separator 99 is supplied as the back pressure of the vane 15. At the same time, the oil in the separator 99 returns to the vane room. Then, the oil returns to the inner side of the rollers through hole 68. See Figures 1 and 2. Thus, **Fujio** does not disclose a “lubrication bore for communication between the oil bore and a low pressure chamber in the second cylinder,” as required by claim 4. For at least the above reasons, neither **Nishikawa** nor **Fujio** disclose the invention as recited by claim 4. Favorable reconsideration is respectfully requested.

Applicants' Response to Claim Rejections under 35 U.S.C. §103

Claim 1 was rejected under 35 U.S.C. §103(a) as being unpatentable over Ebara et al. (JP 2001-073977) in view of Ukai et al. (JP 04-159489).

It is the position of the Office Action that **Ebara** discloses the invention as claimed, with the exception of an intermediate partitioner having a groove at the surface for communication between the oil bore and the low-pressure chamber of the second cylinder and a through bore for

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communication between an interior of the hermetically sealed vessel and the inside of the rollers.

The Office Action relies on **Ukai** to provide this teaching.

Ebara discloses a rotary compressor having an upper cylinder 38, a lower cylinder 40 and a middle dashboard 36. The middle dashboard 36 does not disclose a passage of any kind. Instead, numeral 86 is a gas releasing hole made in the upper supporting member 54. The oil contained in the lower part of the shell 12 is supplied to the eccentric members 42 and 44 through the oil hole 80. In the oil, leak gas is also included. The gas is released to the inner side of the shell 12 through hole 86.

Ukai discloses a rotary compressor which contains only a single cylinder. See Figure 3. This single cylinder is provided with an upper bearing 8 and a lower bearing 9. Along the shaft is fitted a crank pin 5 having an oil supply hole 43. Formed in the upper and lower bearings 8 and 9 are recessed grooves 45 and 46 which form oil supply passages 47. The passage 47 is made for supplying oil from the high pressure area in the shell 1 to the top of vane 10.

Further, it is noted that the Office Action states that cylinder 7 is a second cylinder, despite the lack of a first cylinder. The groove 47 is not formed in an intermediate partitioner, but rather an upper bearing 8 and a lower bearing 9. Thus, **Ukai** does not disclose an intermediate partitioner having a groove at the surface for communication between the oil bore and the low-pressure chamber of the second cylinder and a through bore for communication between an interior of the hermetically sealed vessel and the inside of the rollers, as required by claim 1.

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On the other hand, in the claimed invention, the groove and hole of the intermediate partitioner supplies oil from the intermediate pressure area in the shell to the low pressure chamber LR in the second cylinder. The pressure in the chamber LR is also intermediate pressure, but is lower than the intermediate pressure in the shell because of pressure loss.

Therefore, for at least the foregoing reasons, Applicants respectfully submit that the combination of **Ebara** and **Ukai** does not disclose the invention as claimed. Favorable reconsideration is respectfully requested.

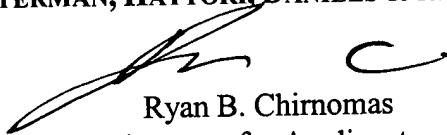
For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned agent.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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Enclosures: Replacement Drawing Sheet (Figure 16)